ADBI Working Paper Series

Modern Currency Wars: The United States versus Japan

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No. 437
October 2013

Asian Development Bank Institute

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Suggested citation:

McKinnon, R., and Z. Liu. 2013. Modern Currency Wars: The US versus Japan. ADBI Working Paper 437. Tokyo: Asian Development Bank Institute. Available: http://www.adbi.org/working-paper/2013/10/10/5910.modern.currency.wars.usa.vs.japan/

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Abstract

In the currency wars of the 1920s and 1930s, various nations fell off the gold standard and in so doing experienced deep devaluations. But under the postwar dollar standard, the central position of the US was key to maintaining the peace, until the Bretton Woods system of fixed dollar exchange parities fell apart after the so-called "Nixon Shock" of 1971. Now, without much fear of retaliation, the US can initiate more limited currency warfare—as with American "Japan bashing" from the late 1970s to mid-1990s to appreciate the yen, or "China bashing" since 2002 to appreciate the renminbi. Japan succumbed to this bashing, and the yen appreciated too much in 1985, with the result that Japan fell into a zero-interest liquidity trap and economic stagnation for almost two decades. However, in 2013, through massive quantitative easing by the Bank of Japan (BOJ), the yen depreciated about 25% against the dollar, stoking fears of a return to Japan bashing by the US. However, this sharp depreciation simply restored the purchasing power parity of the yen with the dollar so it should even out in the long run. In the short run, we show that yen depreciation could adversely affect the smaller East Asian economies. Since 2008, quantitative easing by the BOJ has been similar to that carried out by the US Federal Reserve, the Bank of England, and the European Central Bank. So the BOJ can only be faulted as a currency belligerent if there is a further significant yen depreciation. Led by the US, now all mature industrial countries are addicted to near-zero interest liquidity traps in both the short and long terms. These ultra low interest rates are causing lasting damage to the countries' financial systems, and to those of emerging markets, which naturally have higher interest rates. But exiting from the trap creates a risk of chaos in long-term bond markets and is proving surprisingly difficult.[1]

JEL Classification: F31, F32

[1] The authors want to thank Rishi Goyal for his valuable comments and suggestions.

Contents

1. GOLD STANDARD AND THE GREAT DEPRESSION

In the 1920s and 1930s, currency wars—although very destructive—were at least easy to identify. Their hallmark was a large devaluation of one nation's currency against gold while its trading partners remained tied to the yellow metal.

After World War I and much debate, in 1925 the British Chancellor of the Exchequer, Winston Churchill, tried to restore an international standard by pegging the price of gold at £4.86 per ounce—its pre-1914 parity. Many other nations followed suit. But in late 1926, France, which had inflated and depreciated its currency far below its pre-war parity, finally managed to stabilize its currency by sharply raising interest rates, the famous Poincaré Stabilization. This undervalued the franc against the pound, and, together with the higher interest rates in France, began to drain gold from Britain. Despite its depressed economy and high unemployment in the 1920s, Britain kept its own interest rates high to protect its slender gold reserves.

This gold drain then caused a banking panic in Germany, forcing it to "accidentally" devalue in 1931. The British more deliberately abandoned the gold standard in September 1931 with a deep devaluation, and Japan followed in December 1931. The US had not changed its pre-war gold parity of $20 per ounce, but as a safe haven it had still accumulated much of the world's gold. In 1933 and after considerable tinkering, President Roosevelt devalued the dollar by raising the official price of an ounce of gold from $20 to $35 despite the fact that the US had a trade surplus. This series of "beggar-thy-neighbor" devaluations then came full circle back to France, and in 1936 it was forced to devalue along with some smaller European countries that were tied to it.

In each case, the threat of a run on the country's gold stock (hot money flows) before it they devalued induced governments to cut expenditures (impose austerity) and raise interest rates. The US actually raised interest rates in 1931 even as the Great Depression was unfolding worldwide. So the collective retrenchment in the major countries deepened the worldwide depression, which could be fairly characterized as an implosion of the international gold standard.

2. POSTWAR DOLLAR STANDARD

After World War II, gold was dethroned in favor of the dollar, but this was more by accident than design. In 1945, the major industrial countries other than the US were damaged by the war, had open or repressed inflation, and controls on foreign exchange transactions. Because only the U.S had an open and stable financial system, foreign banks and corporations naturally began using the dollar as the key vehicle currency for clearing international payments and for invoicing international trade flows. Foreign governments starting holding their reserves in dollars, which had become the official intervention currency even before the 1945 Bretton Woods agreement obliged them to declare official dollar exchange parities. But with foreign countries all specifying dollar exchange rate parities, this left—and still leaves—the center country without a direct exchange rate policy of its own.

Amazingly this dollar-based system has persisted from 1945 to the present day.[2] In 2013, when the PRC trades with Brazil, both countries invoice their exports in dollars and clear interbank payments using the dollar as the intermediary currency. The dollar

[2] The dollar's traumatic history in this central role is analyzed in McKinnon 2013.

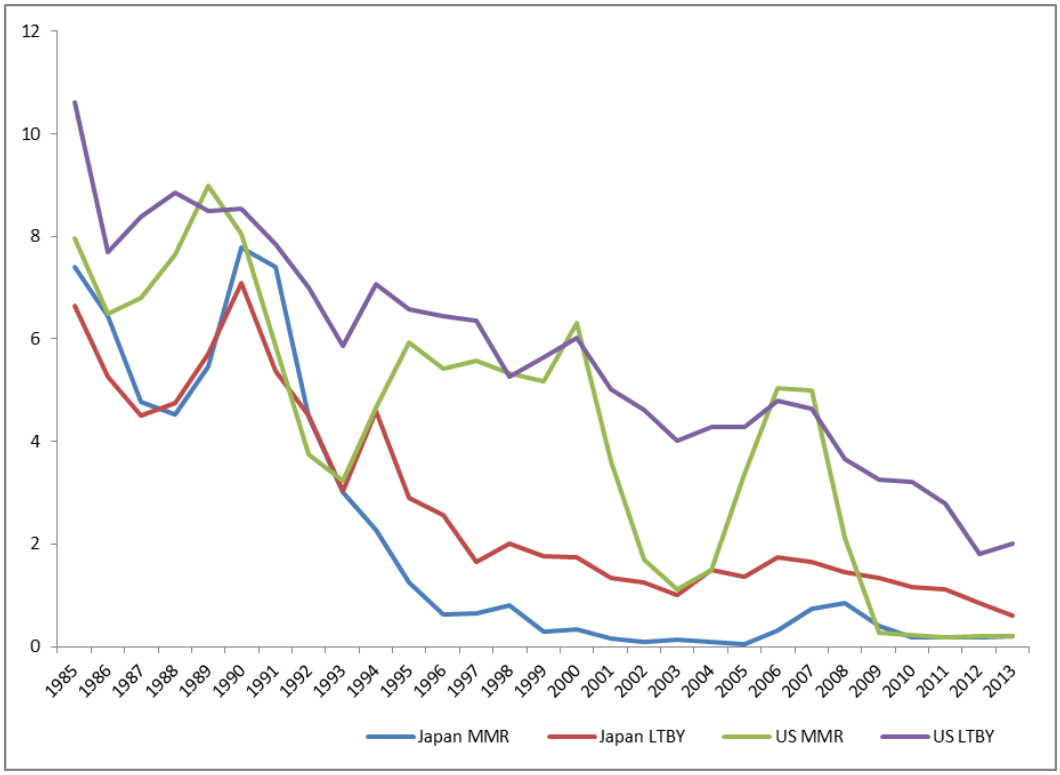
is now the standard reference currency for determining a currency's international value. But the dollar standard is now under siege from major industrial countries trying to force down their interest rates.

In slack economic times, the modern version of a "currency war" takes the form of a country putting downward pressure on its dollar exchange rate—either directly through official foreign exchange intervention or, more commonly, indirectly by through domestic monetary policies. Most advanced economies today, such as the US, have floating exchange rates. But their monetary policies include near-zero short-term interest rates and quantitative easing (QE) as central banks have purchased longer-term Treasury bonds or mortgage-backed securities. By inducing capital outflows from the US, both methods have put untoward, if inadvertent, downward pressure on the dollar in the foreign exchanges.

3. THE FED: OPENING SALVOS IN THE MODERN "CURRENCY WAR"

Since 2000, the US Federal Reserve (the Fed) has twice sharply reduced short-term interbank interest rates (Figure 1). After the collapse of the high-tech bubble in 2001, the Fed cut its overnight funds rate to just 1% in late 2002—and then held it down for almost 2 years so as to create bubbles in the property, commodity, and stock markets (Taylor 2009). The other episode came with the collapse in these bubbles creating the US subprime mortgage crisis in 2008. In response to the ensuing recession, the Fed then cut the US interbank rate to virtually zero in December 2008—where it remains today. With short-term interest rates at zero since 2009, the Fed has initiated various rounds of quantitative easing by buying long-term Treasury bonds, asset-backed mortgage securities, and other long-term instruments so as to reduce long-term rates as well. We are currently in the third round of massive QE with the Fed buying $85 billion of longer-term US securities per month.

Figure 1: Money Market Interest Rate(MMR) and Long Term Bond Yield (LTBY), US and Japan (%)

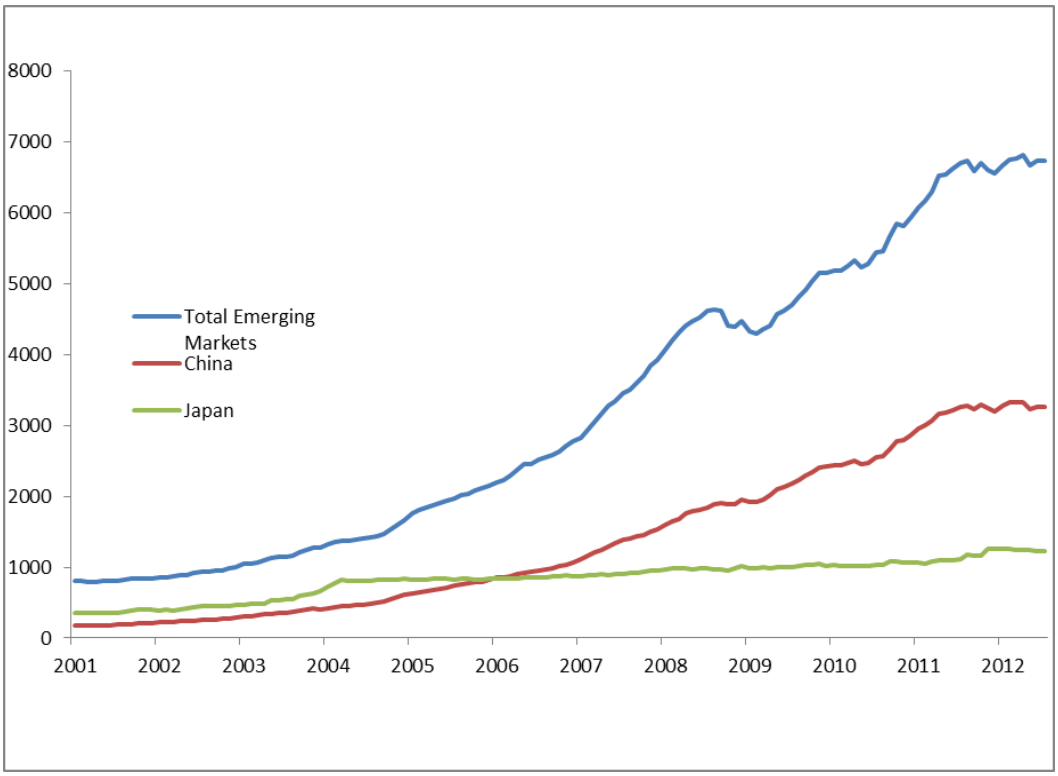


Source: EIU data; calculations by authors.

Why are near zero interest rates a potential beggar-thy-neighbor exchange rate policy? Ultra-low interest rates in the US periodically unleash floods of hot money into emerging markets with higher growth and naturally higher interest rates. Any emerging market central bank is then faced with an uncomfortable choice: either let its exchange rate appreciate against the dollar and thus lose export competiveness against its neighbors, or intervene heavily to buy dollars to smooth exchange fluctuations and thereby lose monetary control. Since 2002, emerging markets have acquired more than $6 trillion in foreign exchange reserves (Figure 2) and their consumer price index (CPI) inflation has been more than 4 percentage points higher than in the US despite, on net balance, having appreciated in nominal terms against the dollar (Figure 3). [3]

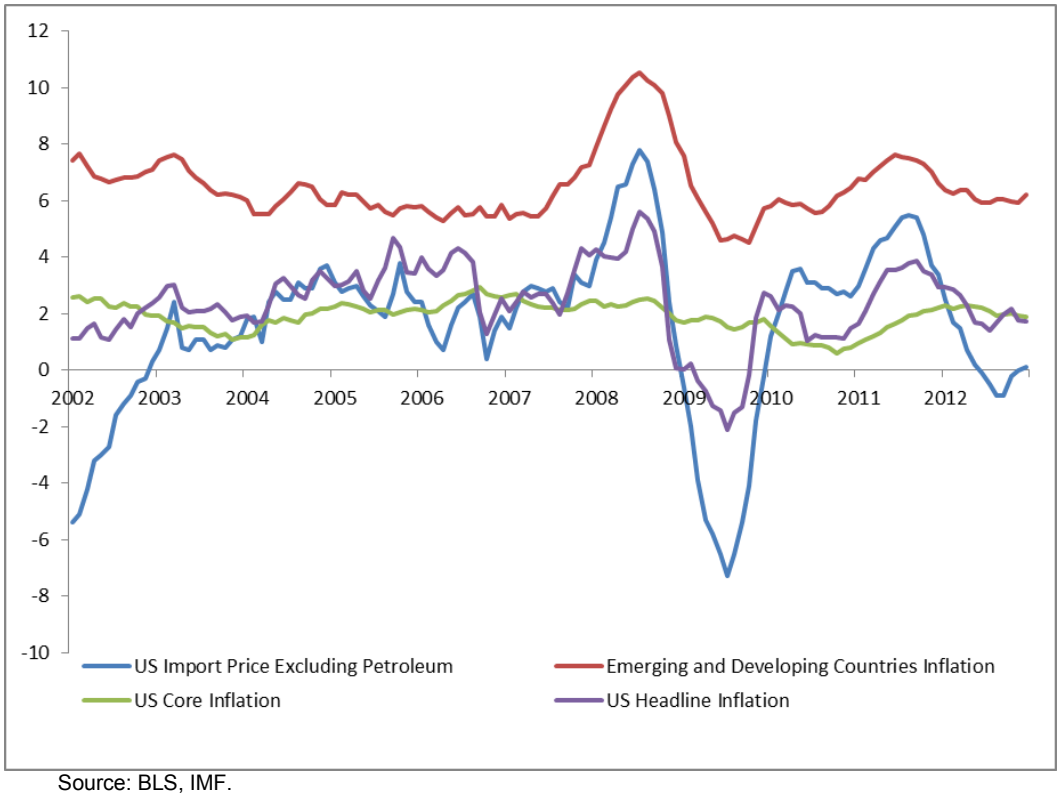
[3] McKinnon 2013, Chapter 5.

Figure 2: Foreign Exchange Reserves of Selected Economies (US$ Billion)



Source: IFS.
Emerging Markets (EM) include the following economies Russia; Poland; Czech Republic; Hungary; Romania; Ukraine; Turkey; Israel; UAE; Saudi Arabia; South Africa; PRC; India; Hong Kong, China; Republic of Korea; Singapore; Indonesia; Malaysia; Thailand; Brazil; Mexico; Chile; Peru; Colombia; Argentina; and Venezuela. For data missing on UAE in May to July 2012 and on the PRC in July 2012, assuming no change in reserves in these months

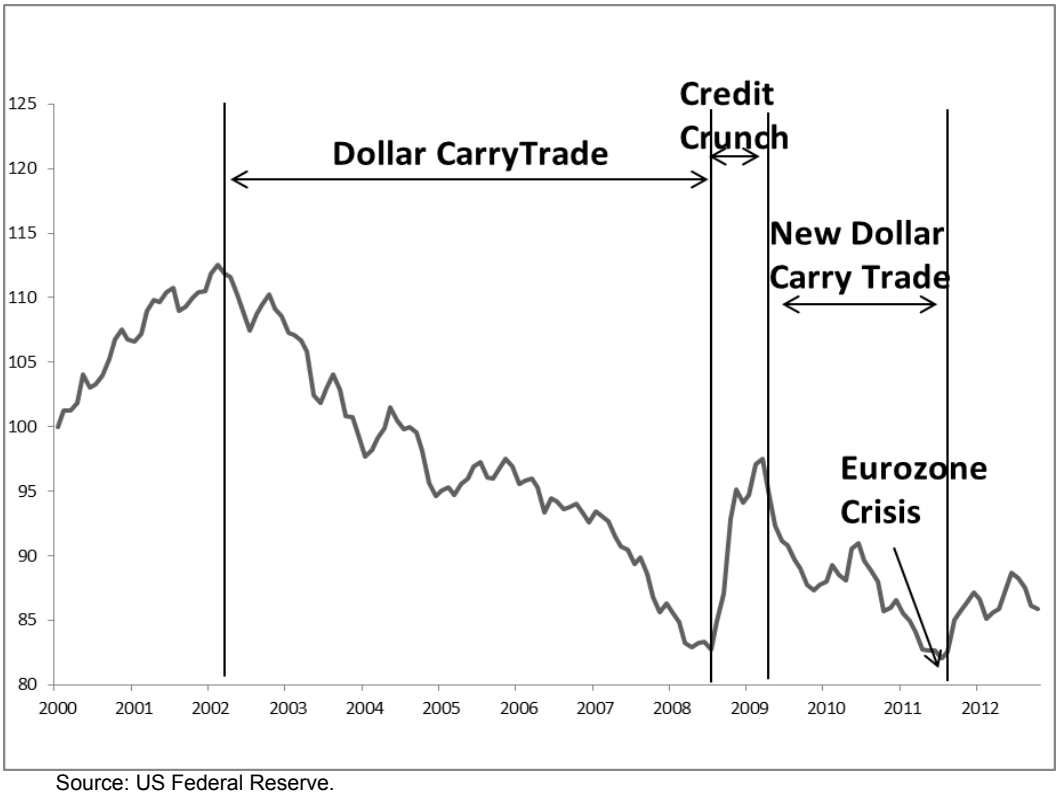
Figure 3: US Inflation, Emerging Market Inflation, and US Import Price



Source: BLS, IMF.

From 2002 to 2011, the dollar's nominal effective exchange rate depreciated by about 35% percent (Figure 4), with real dollar depreciation against emerging market currencies being somewhat greater because of higher inflation in emerging markets (Figure 3).

Figure 4: The US Dollar's Exchange Rate Movements (Jan 2000=100)



Source: US Federal Reserve.

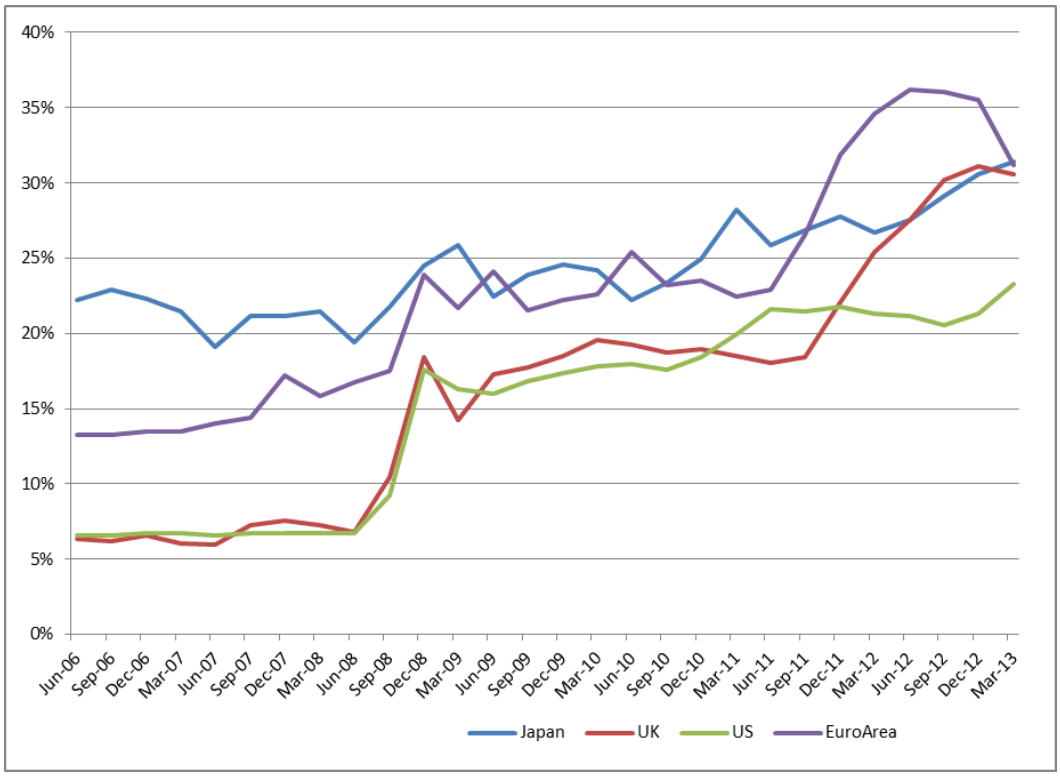
From 2002 to 2011, the dollar's nominal effective exchange rate depreciated by about 35% percent (Figure 4), with real dollar depreciation against emerging market currencies being somewhat greater because of higher inflation in emerging markets (Figure 3).

But these hot money flows into emerging markets are highly cyclical, and can be interrupted by banking crises in the industrial countries. Figure 2 shows the buildup of emerging market foreign exchange reserves stopped with the subprime mortgage crisis in the US in 2008–into 2009. . It then began again in mid-2009 when that crisis seemed to be contained and the large interest differential in favor of emerging markets remained. However, from mid-2011 onward, the rapid buildup stopped again with the unresolved eurozone banking crisis. Banking crises in the US and Europe are intertwined as their banks borrow or lend to each other. Because these "international" banks provide much of the funding for the carry trades behind the hot money flows, an international crisis forces them to retrench and the flows to reverse.

In mid-2013, the most recent crisis has been associated with Federal Reserve Chairman Ben Bernanke musing at a press conference on 19 June that the Fed might "taper off" its program of buying huge amounts of US Treasury bonds and other long-term instruments. He carefully hedged his position by saying that certain pre-conditions had to be met—notably a fall in the unemployment rate to 6.5%— before tapering could begin. But the markets ignored all his careful caveats. Long-term interest rates rose, from 1.5% to 2.5% in the US, and stock markets crashed around the world—particularly in emerging markets—as hot money flowed back to the center country leading to a strengthening of the dollar in the foreign exchanges.

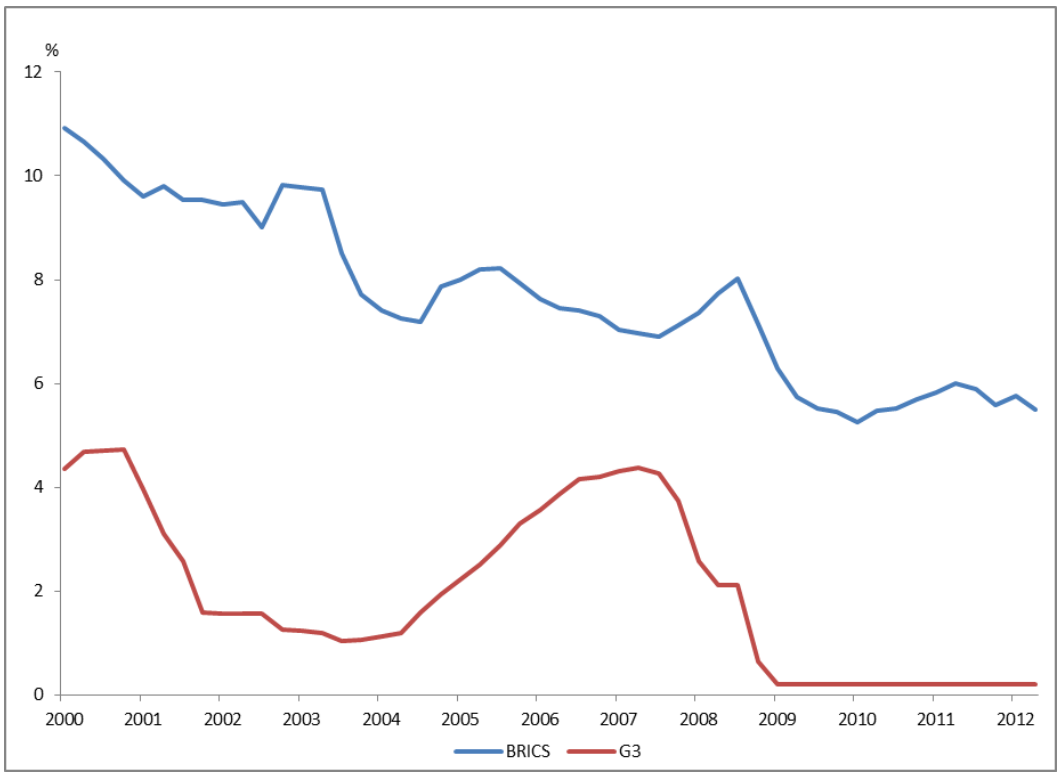
The other industrial economies collectively are also affected by the Fed's policies. After 2008 in response to the unprecedented financial crisis and the Fed's leadership, the European Central Bank (ECB) and the Bank of England also reduced their short-term interest rates toward zero (Figure 6). Short-term rates in Japan were already at zero (Figure 1). All four central banks have also engaged in massive quantitative easing—expanding their balance sheets—that, since 2008, look similar (Figure 5).

Figure 5: Size of Central Bank Balance Sheet (% of GDP)



Source: Bloomberg, OECD Stat.

Figure 6: GDP Weighted Discount Rate of BRICS and G3



Source: IMF, EIU data; calculations by authors.

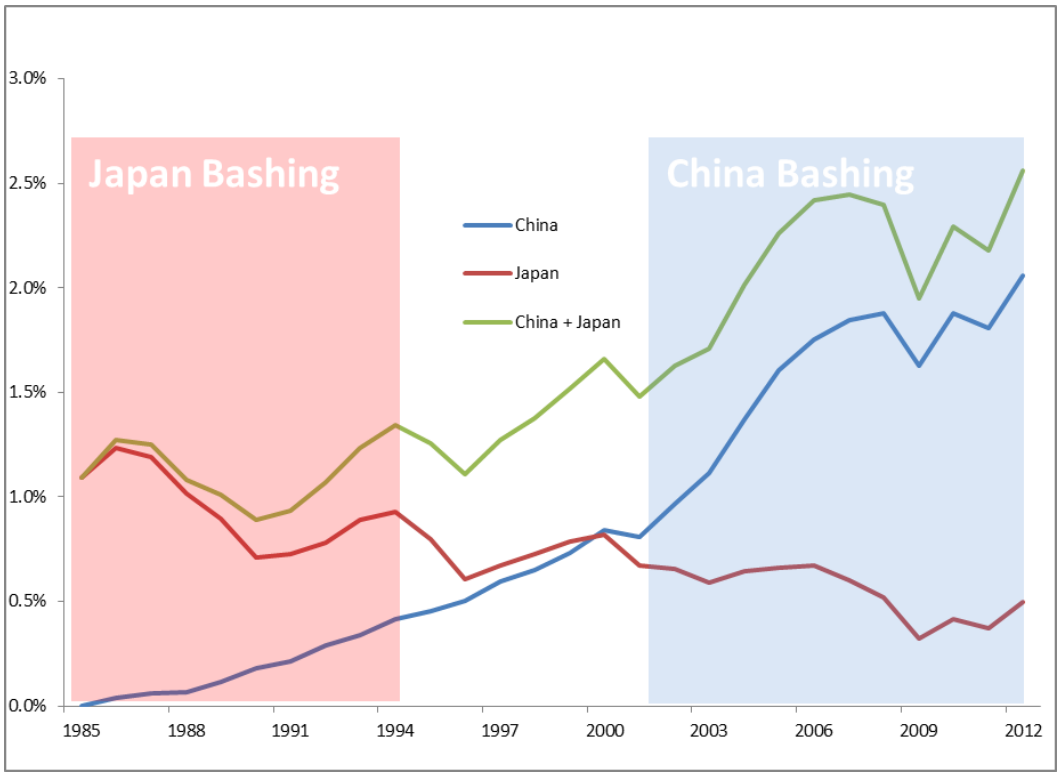
In both emerging markets and the industrial countries, the result has been financial repression. To the disadvantage of savers in the industrial world, bank deposit interest rates are now less than domestic rates of inflation. With interest rates in industrial countries at rock bottom, the interest rate differential between advanced economies and healthy developing economies potentially induces rounds of emerging market currency appreciation.

Of course, each mature industrial country claims that it is only responding to domestic deflationary pressure and that it is not trying to devalue or conduct a beggar-thy-neighbor policy of direct devaluation. However, even if they are not deliberate, these actions constitute currency warfare by stealth because central banks in the mature industrial economies essentially ignore the impact of their monetary policies on neighboring countries—particularly emerging markets. Overall, the persistent huge interest differential between industrial countries with near zero short rates and emerging markets with naturally higher rates (Figure 6) is an ongoing source of hot money flows and financial turmoil in the international economy.

4. JAPAN AS VICTIM

In the postwar period after the Bretton Woods system of fixed dollar exchange parities fell apart (the so-called “Nixon Shock” of 1971), Japan was an early victim of currency warfare. From the mid-1970s to the mid-1990s, Japan’s relatively high rate of savings led to current account surpluses that were particularly obvious when compared with the bilateral trade deficits of the savings-deficient US (see the left-hand panel of Figure 7) Japan was accused of deliberately undervaluing the yen against the dollar to increase its exports. The result was American “Japan bashing,” with threats of tariffs and quotas on imports of goods from Japan, unless the yen appreciated.

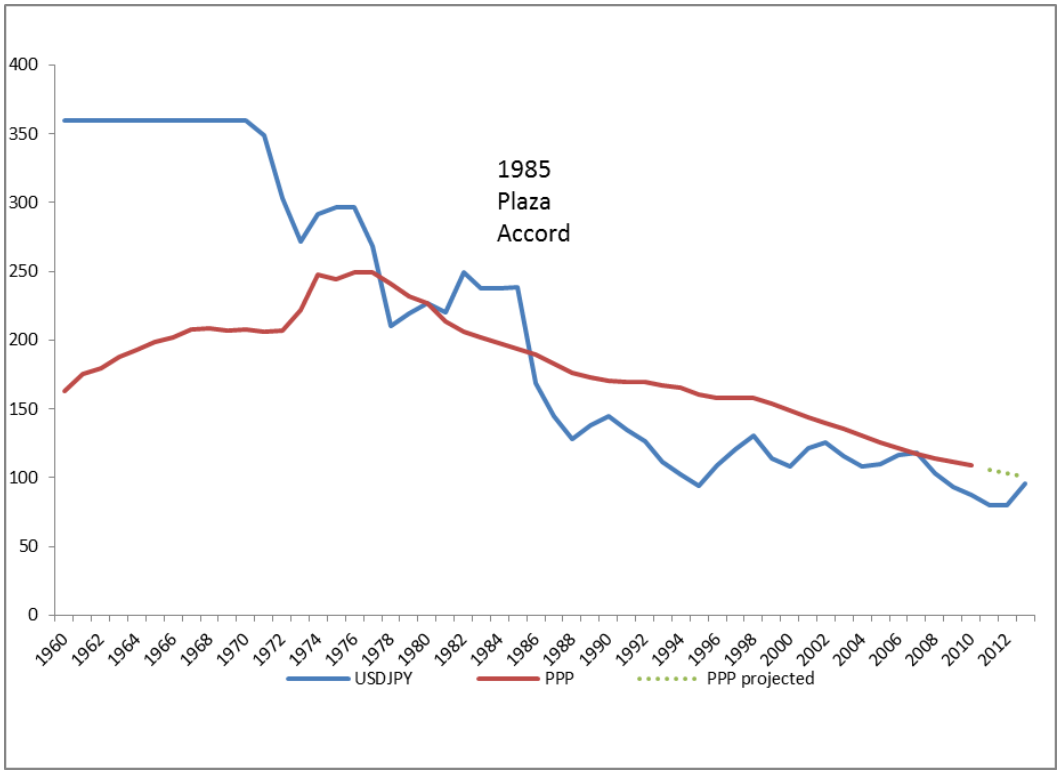
Figure 7: Bilateral Trade Balances of Japan and PRC versus the US (percentage of US GDP, 1985-2012)



Source: Census Bureau, IMF.

This resulted in the famous Plaza Accord in 1985: a negotiated sharp appreciation of the yen, after which the yen continued to appreciate until April 1995. The political accusation that Japan had undervalued the yen is questionable. According to the Penn World Tables (Heston et al 2012), the yen was overvalued compared with its purchasing power parity (PPP) from 1985 through 2012 (Figure 8). Although PPP is only one factor affecting the exchange rate, the yen's level well above its PPP was an important factor in Japan's continued stagnation through 2012.

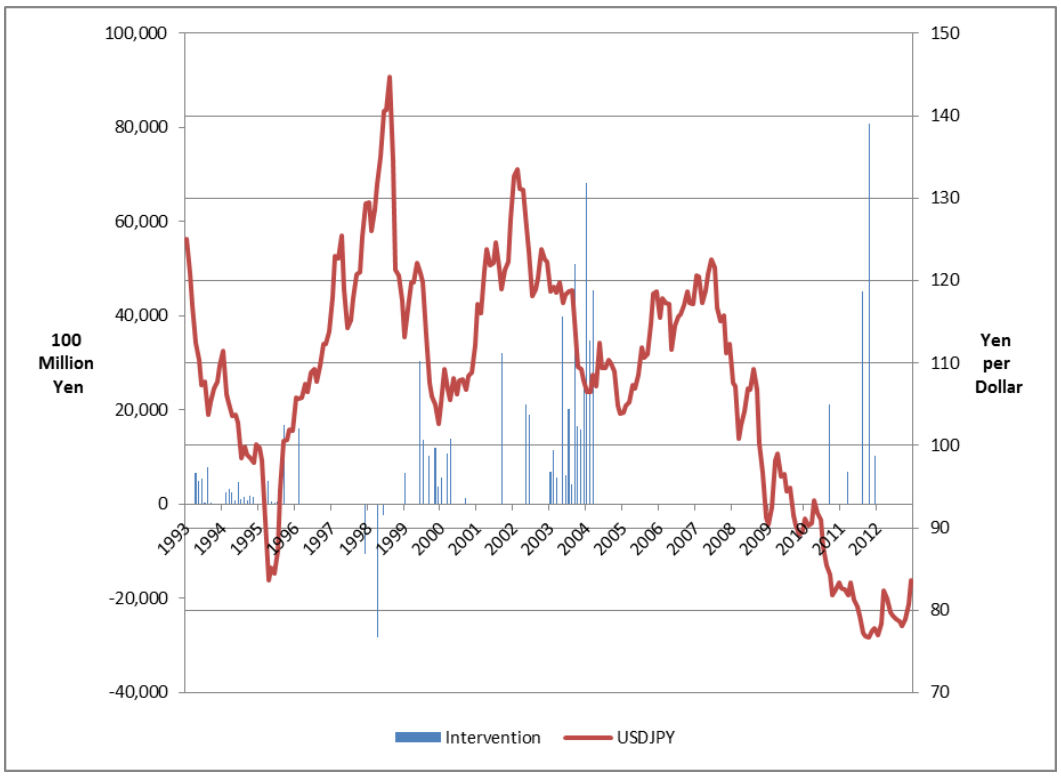
Figure 8: Japan Exchange Rate (Yen/Dollar) and Purchasing Power Parity, projected into 2013



Source: Penn World Table 7.1, FRED.
PPP Projected by linear model: Japan PPP percentage change = 0.095-1.023*(US CPI change-Japan CPI change)

This syndrome of an ever higher yen, from 360 yen to the dollar in August 1971 to touch just 80 in April 1995, was disastrous for the Japanese economy. Initially, the expectation of a higher yen fed a sense of triumphalism leading to massive bubbles in the stock and property markets by 1990. When the bubbles burst in 1991, the yen continued to rise until April 1995 from American pressure. The economy slumped from these bursting bubbles and from exchange rate overvaluation. Although official exchange intervention was quite frequent in crisis periods (Figure 9), the Bank of Japan (BOJ) was not trying to devalue. Rather it was just resisting, not very successfully, the tendency of the yen to go ever higher—which led its large build-up of dollar exchange reserves.

Figure 9: Foreign Exchange Intervention Operations



Source: Japan MOF.

In the 1980s and into the mid-1990s, the BOJ reduced interest rates in order to curb further increases in the yen. Ahead of the US, by 1997 the BOJ had set its short-term interest rate at virtually zero where it remains today (Figure 1)—damaging domestic financial intermediation over its two "lost decades" of economic stagnation with deflation. Low interest rates, together with a special characteristic of Japan's economic system, the banks' fear that loan defaults would wipe out their capital, led banks to give new low-interest loans to old borrowers to pay off their old loans in danger of default. The result was that many unprofitable enterprises in Japan became known as "zombies," existing only by being propped up by low-interest bank loans (Ahearne et al 2005, Caballero et al 2006)

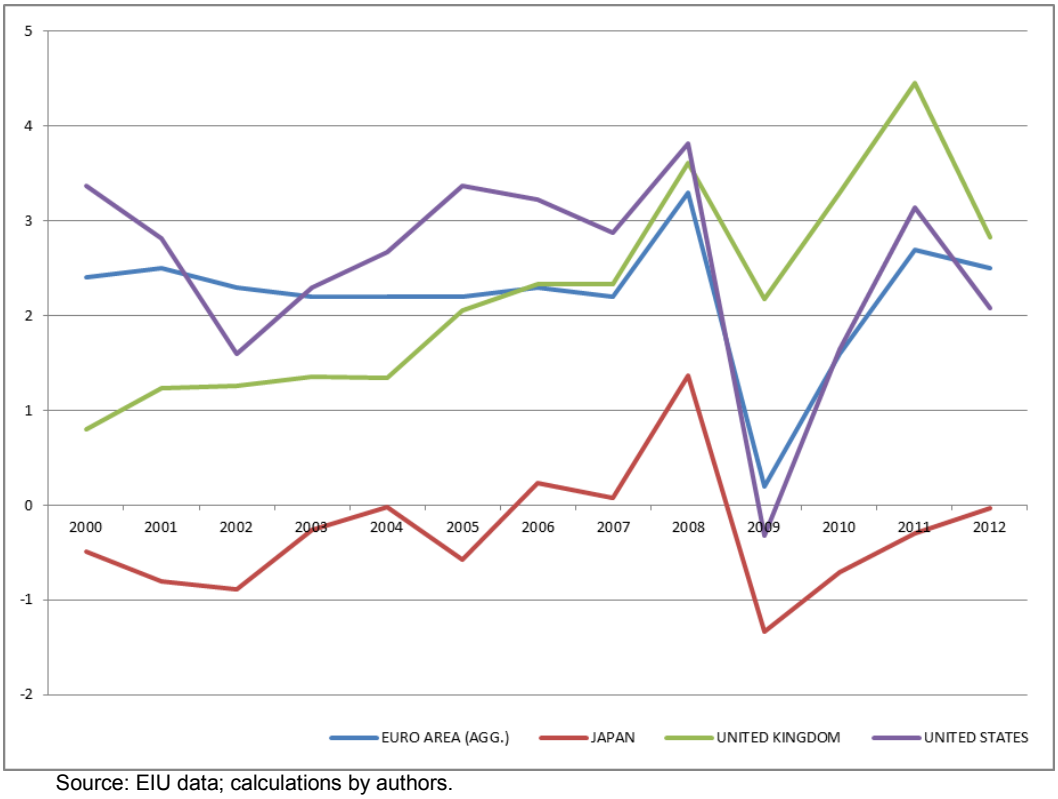
To be fair to the Japanese monetary authorities, Japan's zero-interest liquidity trap was externally imposed. American "Japan bashing" from the late 1970s to the mid-1990s set up the expectation of an ever-higher yen that caused hot money to flood into the economy so the yen became overvalued (at 80 yen per dollar in April 1995) and the price level began to fall as much as a decade earlier.[4] By the principle of open interest parity, the expectation of a higher yen itself pushed interest rates down. By 1997 both market expectations of an ever higher yen and desperate attempts by the BOJ to stimulate the slumping economy by easy money resulted in a liquidity trap: virtually zero short-term rates and long-term rates less than 1%. In spite of the damage to Japan's economy, the ever-higher yen was unable to correct the chronic trade imbalance between the US and Japan (Qiao 2007).

A chronic trade surplus and deflation, together with Japan's low external debt ratio, made the yen a safe-harbor currency during the 2008 crisis. Figure 10 shows the relatively low inflation in Japan. When US was struggling from the aftermath of

[4] This sorry tale of deflation in Japan is spelled out more fully in McKinnon and Ohno (1997).

subprime mortgage crisis, and the eurozone suffering unprecedented sovereign debt and banking crises, the Japanese yen, together with the Swiss franc and gold, become the safe haven for international capital inflows (Habib et al 2012, Ranaldo and Söderlind 2010). This phenomenon may be especially harmful to Japan's economy: when the risk is high and world growth faces a headwind, Japan may suffer an additional blow from currency appreciation. The deeper Japan is trapped in deflation, the stronger such an effect may be.

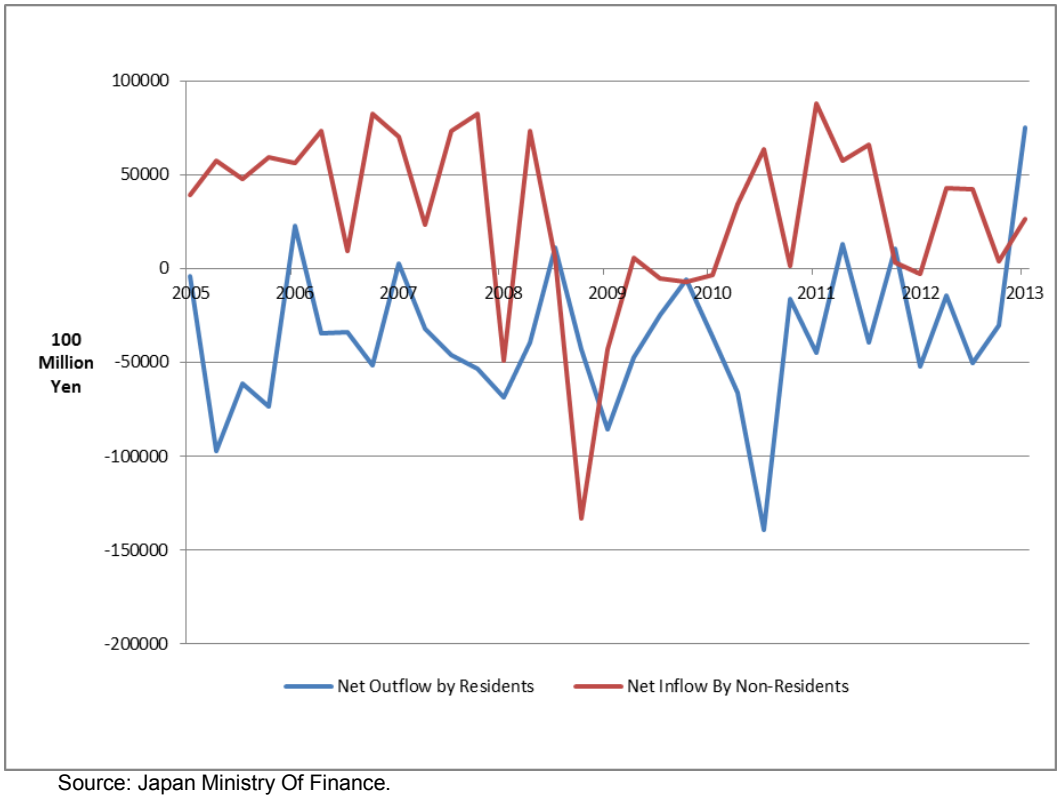
Figure 10: Inflation Rate of Major Advanced Economies (2000-2012)



Source: EIU data; calculations by authors.

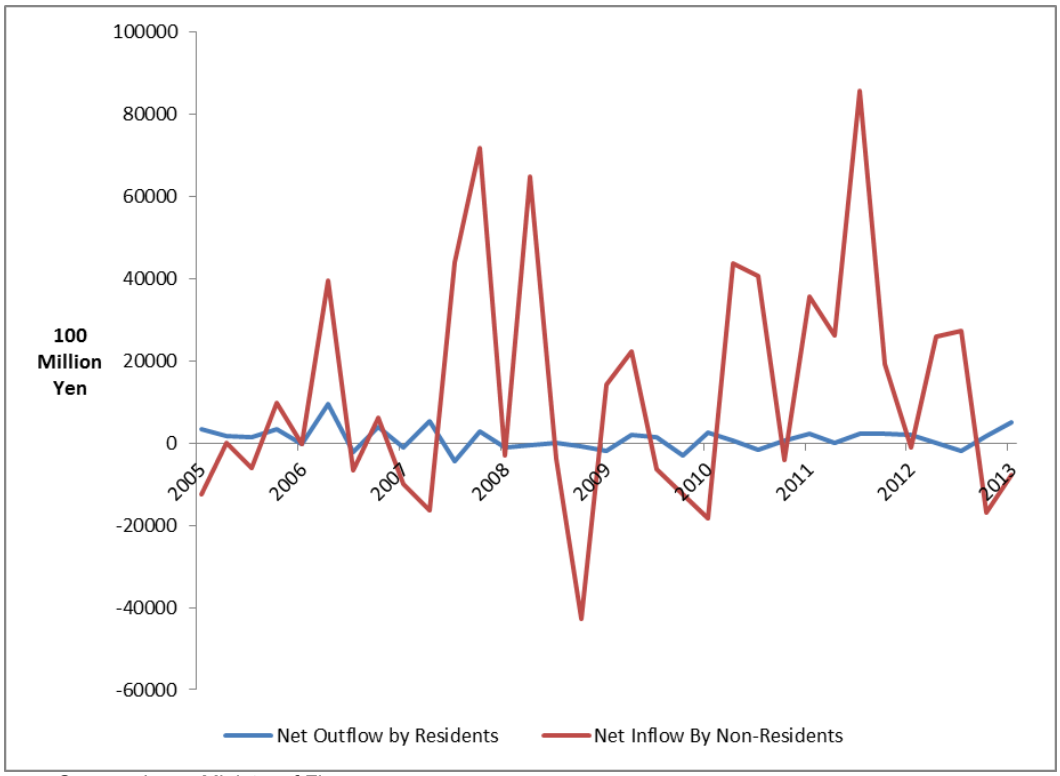
Increases in foreign portfolio investment in Japan have confirmed this phenomenon (Figures 11 and 12) The Swiss National Bank stepped in to prevent further appreciation of the Swiss Franc on 11 September 2011; Japan also acted, but wasn't firm enough to convince the market. The yen rose to its high for decades despite the Great East Japan earthquake and tsunami. The overvaluation of the yen was recognized internationally and in March 2011, for the first time since 2000, the G7 announced joint intervention to prevent the yen from further appreciation. But the yen still remained at a high level through 2012.

Figure 11: Total Portfolio Investment (Quarterly)



Source: Japan Ministry Of Finance.

Figure 12: Money Market Instruments (Quarterly)



Source: Japan Ministry of Finance.

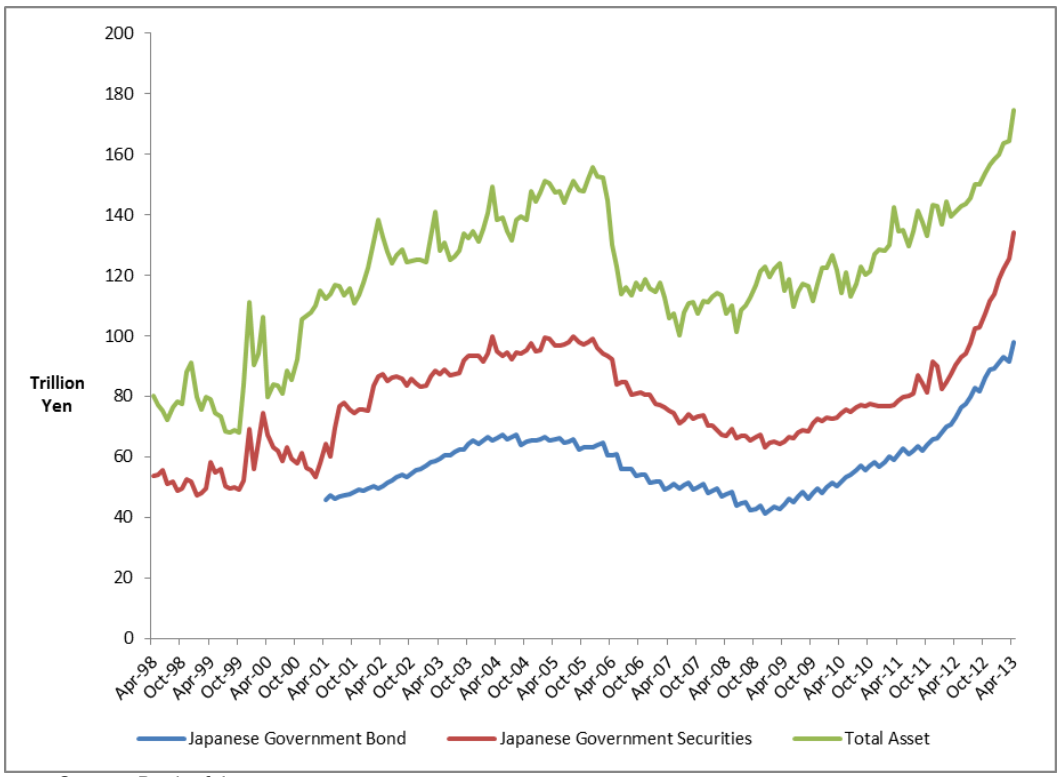
Remarkably, this exchange rate overvaluation trap lasted from the mid-1980s right through 2012 as measured by deviations of the yen from its purchasing power parity (Figure 8). Japan has indeed suffered from currency warfare—undue exchange appreciation— resulting in almost two decades of stagnation.

5. JAPAN AS PREDATOR?

In 2013, however, a remarkable change occurred. In December 2012, Shinzo Abe was elected Prime Minister on a platform of expanding the balance sheet of the Bank of Japan and seeking a higher inflation target. For 2013, the BOJ's balance sheet has expanded proportionately more than twice as much as the very aggressive expansion by the U.S central bank. The yen depreciated from about 80 to the dollar in December 2012 to more than 100 by May 2013 (about 25%), and depreciated relative to other East Asian currencies—which tend to track the dollar and/or renminbi.

At the time of writing (June 2013), the BOJ had announced a Japanese government bond (JGB) purchasing program of about Y7 trillion per month in May, and a Y1.2 trillion commercial paper purchasing program in June. By comparison, BOJ holdings of JGBs had been increasing at about Y0.7 trillion per month from 2008 to 2012. Figure 13 indicates the sharply increased pace of the BOJ's balance sheet expansion from 2012 to 2013. The inflation target has also been raised from 1% to 2%, which is supposed to impact exchange rate through higher inflation expectations.

Figure 13: Bank of Japan Total Assets



Source: Bank of Japan.

The dramatic balance sheet expansion by the BOJ is not out of line with similar expansions in the balance sheets of other major central banks since mid-2008. Figure 5 shows the balance sheet expansion of the BOJ compared with those of the Fed, the ECB and the Bank of England. Since 2013, the depreciation of the yen has reflected the recent more expansionary Japanese monetary policy. The renminbi/dollar rate remains remarkably stable, with very slow nominal appreciation. However, Japan's recent aggressive quantitative easing has led to serious concern from other Asian countries, especially from the PRC and the Republic of Korea, about a depreciating yen. Unlike other major advanced economies, Japan is directly competing with other Asian exporters.

From 1982 to 2001, annual output changes in other East Asian economies output were inversely correlated with the yen/dollar exchange rate (McKinnon and Schnabl 2003, Kwan 2001). When the yen was weak against the dollar, the other East Asian economies (which were mainly pegged to the dollar) slumped and vice versa. We updated this result using quarterly data for 1994–2012 with a slightly trimmed model[5]:

$$y_t^{AsianEconomy} = \beta_1 + \beta_2 y_t^{US} + \beta_3 e_t^{USDJPY} + u_t$$

Where y_t is quarterly GDP growth (yoy), and e_t is the yen/dollar exchange rate.

We tested this relationship on a group of economies, which we called EA1: Indonesia; Republic of Korea; Malaysia; the Philippines; Singapore; Taipei,China; and Thailand. We also tested it on EA2, which is EA1 plus the PRC. The results are in Table 1. Most economies, except the PRC and Indonesia, show strong dependence on US growth as well as on the yen/dollar exchange rates. All the economies except the PRC have negative USDJPY coefficients: β_3 is significant at the 1% or 5% level so that fluctuations in the yen/dollar rate seem to impact the smaller East Asian economies strongly.

[5] The lagged USDJPY term has been dropped because of high quarterly autocorrelation.

Table 1: Kwan Model of Fluctuations in East Asian Output, 1994–2012

Target Economies	US GDP Growth	USD/JPY Monthly Average	Adj. R-Square	Durbin Watson
EA1 Average	0.80**	-0.10**	0.25	0.37
	(4.33)	(-3.86)		
EA2 Average	0.72**	-0.08**	0.23	0.35
	(4.2)	(-3.71)		
PRC	0.12	-0.01	-0.01	0.35
	(0.93)	(-0.5)		
Indonesia	-0.17	-0.14**	0.19	0.36
	(-0.64)	(-4.06)		
Republic of Korea	0.92**	-0.06*	0.18	0.38
	(4.18)	(-2.11)		
Malaysia	1.06**	-0.13**	0.26	0.44
	(4.44)	(-3.95)		
Philippines	0.30*	-0.05**	0.14	0.69
	(2.58)	(-3.3)		
Singapore	1.39**	-0.1*	0.26	0.59
	(5.14)	(-2.82)		
Taipei,China	1.36**	-0.05*	0.42	0.61
	(7.46)	(-2.18)		
Thailand	0.75*	-0.13**	0.12	0.51
	(2.39)	(-3.15)		

Source: EIU data; calculations by authors.

Notes: EA1: Indonesia; Republic of Korea; Malaysia; Philippines; Singapore; Taipei,China; Thailand. EA2: EA1+ PRC

Because of they high autocorrelation in quarterly exchange rate data, we trimmed Kwan's model (Kwan 2001) by dropping the lagged term.

* = significant at 5% level

** = significant at 1% level

This strong inverse effect of the yen/dollar rate on the smaller East Asian economies (the PRC is no longer "small") has two dimensions. First, when the yen appreciates against the dollar, it also appreciates against the won, baht, ringgit, rupiah, and so on, which tend to have more stable dollar exchange rates. So the smaller EA countries find it easier to export to Japan itself and to compete with Japanese exports to third markets.

Second, Japan is a creditor economy and has been a major source of direct investment to other East Asian economies. Indeed, large Japanese corporations such as Toyota, Nissan, Sony, Matsushita, and so on, have set up branch plant operations in other Asian countries. But this source of direct investment is cyclical with the yen/dollar exchange rate. When the yen is high and Japan has become a relatively expensive place to produce, Japanese firms disinvest from Japan and invest more in the smaller Asian economies (and in the US itself). Output is reallocated away from the parent firms in Japan to their East Asian subsidiaries whose exports increase, as per our first effect.

But when the yen becomes unusually weak against the dollar, these positive effects quickly unwind and the smaller East Asian economies tend to slump. Their exports, largely invoiced in dollars, fall along with inward direct investment from Japan. One of

the most dramatic episodes was the fall in the yen in 1995–1996 just before the great Asian crisis of 1997. True, the crisis itself was mainly due to short-term overborrowing in dollars and yen by five countries: Indonesia, Republic of Korea, Malaysia, Philippines, and Thailand. But when the bubble burst in 1997, the negative economic impact on these countries was aggravated by the weaker value of the yen.

No wonder other Asian countries are deeply concerned by the recent sharp fall in the yen's value from 80 to 100 yen per dollar after December 2012. However, beyond fluctuations in the yen/dollar exchange rate it is also important to consider the more general interdependence of East Asian economies. We update the previous mutual determinants model (McKinnon and Schnabl 2003) by running the regression for 1994–2012:

$$y_t^{AsianEconomy} = \beta_1 + \beta_2 y_t^{US} + \beta_3 y_t^{JP} + \beta_4 y_t^{CN} + \beta_5 y_t^{REA1} + u_t$$

Where y_t is now quarterly GDP growth and y_t^{REA1} is the average growth rate of the rest of EA1 country group.

The result is presented in Table 2. Compared with Table 1, there are some minor conflicts in the sign of the estimated coefficients due to colinearity. However, the results in Table 2 basically support the strong positive impact of fluctuations in Japan's growth on selected East Asian economies. More surprising, if one considers all the smaller Asian economies collectively, quarterly fluctuations in American output affect the East Asian economy hardly at all. The regression coefficient for EA1 in Table 2 is not significantly different from zero. Table 2 also shows that changes in both the PRC's and Japan's output on the EA1 countries are now very significant—reflecting the greater integration of the East Asian economy.

Table 2: Mutual Determinants of East Asian Output, 1994–2012

Target Economies	US GDP Growth	Japan GDP Growth	PRC GDP Growth	Rest of EA1 Growth	Adj. R-Square
PRC	0.03	0.11			0.00
	(0.24)	(1.14)			
	-0.08			0.3***	0.23
	(-0.77)			(4.87)	
Indonesia	-0.94***	0.67***	0.75***		0.24
	(-3.43)	(3.3)	(3.1)		
	-1.4***		-0.15	1.25***	0.66
	(-7.66)		(-0.81)	(10.7)	
Republic of Korea	0.54**	0.36**	0.47**		0.24
	(2.36)	(2.09)	(2.29)		
	0.28*		-0.28*	0.94***	0.67
	(1.93)		(-1.83)	(10.11)	
Malaysia	0.32	0.69***	0.72***		0.36
	(1.36)	(3.88)	(3.4)		
	0.09		-0.19	1.26***	0.83
	(0.81)		(-1.56)	(16.25)	
Philippines	-0.13	0.51***	0.29***		0.48
	(-1.36)	(6.92)	(3.31)		
	-0.08		0.01	0.41***	0.52
	(-0.87)		(0.07)	(7.67)	
Singapore	0.64***	0.72***	1.18***		0.55
	(2.81)	(4.27)	(5.86)		
	0.66***		0.64***	0.88***	0.69
	(3.69)		(3.4)	(7.58)	
Taipei,China	0.96***	0.37***	0.74***		0.6
	(5.9)	(3.03)	(5.12)		
	1.01***		0.49***	0.38***	0.64
	(7)		(3.18)	(4.3)	
Thailand	-0.08	0.79***	0.9***		0.26
	(-0.26)	(3.44)	(3.3)		
	-0.37*		-0.04	1.36***	0.61
	(-1.71)		(-0.17)	(9.36)	
EA1 Average	0.19	0.59***	0.72***		0.47
	(1.12)	(4.71)	(4.86)		
EA2 Average	0.19	0.6***			0.29
	(1.07)	(4.59)			

Source: EIU data; calculations by authors.
Notes: EA1: Indonesia: Republic of Korea; Malaysia; Philippines; Singapore; Taipei,China; Thailand. EA2: EA1+ PRC
Because of high autocorrelation in quarterly exchange rate data, we trimmed Kwan's model (Kwan 2001) by dropping the lagged term.
* = significant at 10% level. ** = significant at 5% level. *** = significant at 1% level.

Hypothetically, correcting the overvaluation of the yen should restore Japan's GDP to some degree; and this is likely to offset the adverse effect on the smaller East Asian economies from greater Japanese export competition from a depreciating yen. However, deliberately depreciating the yen far below its "fair" PPP price may not be sustainable—and may well provoke a return of American Japan bashing to appreciate the yen.

Yet, there are reasons to doubt Mr. Abe's plan. It is reported[6] that the Prime Minister supported purchasing foreign bonds to depreciate yen, although Japan did not follow through with this plan. Unlike quantitative easing, whose exchange rate impact may be a byproduct, the massive purchases of foreign assets, or other strong signs of linking monetary policy to exchange rate, are nearly a declaration of "currency warfare," and may lead to a true "currency war."

That outcome would be against other "arrows" of "Abenomics," including building a stronger partnership with US. The ultimate goal for Japan is to boost inflation and therefore economic growth, while controlling the size of government debt. Although in the medium term exchange rate correction of an overvalued yen may facilitate this goal, pushed to an extreme it will prove intolerable to other countries and not only in Asia. It could bring back "Japan bashing" by the US itself. So, it is in the interest of Japan to restrict its stimulus package to domestic monetary instruments, and to respect the concern of its trading partners over the yen/dollar exchange rate.

But how can we calculate a desirable and "fair" yen/dollar exchange rate? The PPP rate (shown in Figure 8) is only a slowly moving variable reflecting slow movements in price levels in both Japan and the US. It can only be calculated with a considerable lag from price levels in the Penn World Tables. In contrast, the floating market-determined rate can move quickly and show jagged large changes—such as the 25% depreciation of the yen in 2013. Nevertheless, we can linearly project the PPP rate in Figure 8, since PPP is highly dependent on the inflation differential.[7] Assuming a 2% inflation difference in 2013 (which implies the US reaches its 2% target and Japan recovers from deflation), the projected PPP in 2013 would be about Y100 per dollar—as shown by the dashed line in Figure 8. Thus we can presume that the BOJ has already accomplished its mission of correcting the overvalued yen and further depreciation is unwarranted. The PPP's drifting with the inflation difference should also remind the BOJ about the urgency of its mission: the longer it takes to boost domestic inflation in Japan, the lower (more appreciated) the yen's 'fair market value' will be in terms of PPP with the dollar.

6. CONCLUSION AND FURTHER DISCUSSION ON QUANTITATIVE EASING

From a PPP of view, the yen seems to have recovered from its previous chronic overvaluation against the dollar within a reasonable range. But in the short run, the transition to a lower yen seems likely to slow exports and depress incomes in the smaller East Asian economies. In the long run, however, a more stable and appropriately valued yen should be beneficial to Japan and the other Asian economies.

[6] http://www.bloomberg.com/news/2013-01-13/abe-aids-bernanke-as-japan-seen-buying-558-billion-foreign-debt.html

[7] Japan PPP percentage change = 0.095-1.023*(US CPI change-Japan CPI change), using annual data 1980–2012, R-square=0.77

By luck rather than design, the current exchange rate of about 100 yen per dollar is about right from the PPP point of view. Holding the rate there is the key to avoiding currency wars in the future: there need be no more "Japan bashing" or "China bashing" from the US or Europe.

But Japan is still in a deflationary trap. If the BoJ springs the trap and boosts inflation to a normal level as promised, market pressure on the yen to appreciate will continue. Nevertheless, Japan should conduct its policy with only domestic tools, and refrain from directly intervening in the foreign exchange market to depreciate the yen.

Even with such restraint, however, the impact of Japan's new monetary policy based mainly on quantitative easing contains a contradiction. On the one hand, the BOJ has increased its long–run inflation target to 2% per year. If the market believes that the BOJ will be successful, the expectation of higher inflation should increase interest rates on long-term JGBs. On the other hand, through massive quantitative easing by buying longer-term yen securities, the BOJ is trying to force long-term rates down. The result is turmoil in the market for long-term JGBs. Any hint of a relaxation of Japan's QE causes long-term bond rates to jump with discrete falls (appreciations) in the yen/dollar rate.

Currently, the US Fed faces a similar dilemma. It can't exit its QE without long-term bond rates jumping. Any time Fed Chairman Ben Bernanke meets the press and suggests that bond purchases might "taper off" (his expression), long-term interest rates jump and bond prices fall—an effect aggravated by the extremely low average interest rates. One result of this volatility is that that bond dealers are reducing their inventories of bonds so as to cause severe illiquidity in the bond market. Inventories of "dealer banks" had fallen from a peak of about $235 billion in 2007 to as low $37 billion in July 2012, according to Fed data"[8].

The upshot is that just talk of exiting from quantitative easing is undermining the ability of the bond markets to provide longer-term finance for industry and local governments. A headline in the Wall Street Journal in June 2013 read "Bond Investors Head for the Hills" and below it "Investors have pulled money out of assets ranging from lower-rated corporate bonds to ultra safe US Treasurys in sums unseen since the financial crisis."[9] This crisis at the long-term end of the market is compounded by zero short-term interest rates. When investors flee from bond funds into money-market mutual funds or bank deposits, banks and money market funds tend to fail as financial intermediaries when interest rates are close to zero.[10]

So the BOJ and Fed seem to be in the same boat—not to mention the ECB and Bank of England. How they should act jointly to spring the near zero interest financial trap—for both short-term and long-term finance—is a long story for another time. But mutually stabilizing exchange rates and interest rates, at moderately positive levels, are an important part of the story.

[8] *Financial Times*, 17 June 2013, p. 16.

[9] *Wall Street Journal*, 19 June 2013, p. C1.

[10] McKinnon, Ronald, "Fed "Stimulus" chokes indirect finance to SMEs", Centralbanking.com June 2013.

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